

WHAT IS CLAIMED IS:

1. A protective helmet assembly, comprising
a shell constructed from at least PARA-ARAMID to provide ballistic protection;
5 a suspension band attached to the shell; and
an adjustable headband and a crown pad for collectively adjusting to a shape
of a head of a user while maintaining the head of the user in a non-direct-contact
relationship with the shell, each of the adjustable headband and the crown pad
having a plurality of screw less connectors for directly securing the adjustable
10 headband and the crown pad to the suspension band without screws.

2. The protective helmet assembly of claim 1, wherein said shell is
constructed from at least one of a woven material and a Polyvinylbutyral/Phenolic
resin system.

3. The protective helmet assembly of claim 1, wherein said shell is primed
using one of a paint and a Type II Aliphatic Polyurethane.

4. The protective helmet assembly of claim 1, wherein the headband is
20 directly secured to the suspension band via loops and the crown pad is directly
secured to the suspension band via loops and straps.

5. The protective helmet assembly of claim 4, wherein each of the loops that attach the headband to the suspension band is formed of nylon and include a hook-and-loop fastener.

5 6. The protective helmet assembly of claim 5, wherein for each of the loops that attach the headband to the suspension band, the suspension band and headband both include portions of another hook and loop fastener for providing another attachment point in line with each of the loops.

10 7. The protective helmet assembly of claim 5, wherein the nylon is in a form of a strap that is folded into a loop.

8. The protective helmet assembly of claim 4, wherein the loops and straps that attach the crown pad to the suspension band are formed of nylon.

15 9. The protective helmet assembly of claim 4, wherein the loops that attach the crown pad to the suspension band comprise first rear loops and second rear loops, the first rear loops being attached to the suspension band, and the second rear loops being attached to the first rear loops and the crown pad.

20 10. The protective helmet assembly of claim 9, wherein the first rear loops are formed of nylon straps and the second rear loops are formed of nylon cord.

11. The protective helmet assembly of claim 1, wherein the suspension band is attached to the shell via metal fasteners.

12. The protective helmet assembly of claim 11, wherein at least some of the metal fasteners comprise a screw and a clip, the screw having a head portion and a threaded portion, the clip portion for receiving the threaded portion.

13. The protective helmet assembly of claim 1, wherein the suspension system further has a nape pad for fore and aft positioning of the protective helmet assembly relative to a nape of a neck of a wearer.

14. The protective helmet assembly of claim 13, wherein the suspension band is attached to the shell via metal fasteners, and the nape pad is attached to the shell via at least some of the metal fasteners.

15

15. The protective helmet assembly of claim 14, wherein the metal fasteners maintain the suspension band in a fixed position with respect to the shell while the at least some of the metal fasteners provide adjustment of the fore and aft positioning of the protective helmet assembly relative to the nape of the neck of the wearer.

20

16. The protective helmet assembly of claim 1, wherein the suspension system further has a chin strap subassembly for securing a position of the protective helmet assembly relative to a chin of a wearer.

5 17. The protective helmet assembly of claim 16, wherein the suspension band is attached to the shell via metal fasteners, and the chin strap subassembly is attached to the shell via at least some of the metal fasteners.

10 18. The protective helmet assembly of claim 17, wherein the metal fasteners maintain the suspension band in a fixed position with respect to the shell while the at least some of the metal fasteners provide adjustment of the position of the protective helmet assembly relative to the chin of the wearer.

15 19. The protective helmet assembly of claim 1, wherein the suspension band is attached to the shell via metal fasteners, and the suspension system further has a nape pad and chin strap subassembly attached to the shell via at least some of the metal fasteners.

20 20. The protective helmet assembly of claim 19, wherein the metal fasteners maintain the suspension band in a fixed position with respect to the shell while the at least some of the metal fasteners provide adjustment of a position of the nape pad and chin strap subassembly.

21. The protective helmet assembly of claim 19, wherein the nape pad and chin strap subassembly are attached to the shell via a first set of nylon straps coupled to the at least some of the metal fasteners.

5 22. The protective helmet assembly of claim 19, wherein the nape pad and chin strap subassembly comprises a nap pad portion and a chinstrap portion joined together using a coupling.

10 23. The protective helmet assembly of claim 22, wherein the nape pad portion is constructed of at least leather.

15 24. The protective helmet assembly of claim 22, wherein the chinstrap portion comprises a first nylon strap for securing under the chin and a second nylon strap connected to the first nylon strap for securing in front of the chin.

20 25. The protective helmet assembly of claim 22, wherein the coupling comprises a first set of straps and a set of strap joiners, each of the strap joiners having a first, a second, and a connection point, each of the first set of straps being respectively connected to the nape pad portion and the first connection point of one of the strap joiners.

26. The protective helmet assembly of claim 25, wherein the nape and chin strap subassembly further comprises a second and a third set of straps, the second

connection point of each of the strap joiners being respectively connected to the chinstrap portion via a second set of nylon straps, and the third connection point of each of the strap joiners being respectively connected to the shell via the at least some of the metal fasteners.

5

27. The protective helmet assembly of claim 25, wherein the nape and chin strap subassembly further comprises a quick release latch in between the second connection point of the strap joiner and one of the nylon straps of the second set to provide a quick release of the chin strap from the chin of the wearer.

10

28. The protective helmet assembly of claim 1, wherein the headband comprises a nylon band and a hook-and-loop fastener for adjusting a circumference of the nylon band.

15

29. The protective helmet assembly of claim 28, wherein the headband further comprises a leather band for overlaying over a portion of the nylon band that is in contact with a head of a wearer.

30. The protective helmet assembly of claim 1, wherein the suspension
20 band comprises a nylon band.

31. The protective helmet assembly of claim 1, wherein the crown pad is disposed away from the inner surface of the shell to allow air circulation between the crown pad and the inner surface of the shell.

5 32. The protective helmet assembly of claim 1, wherein the crown pad comprises an outer leather ring and an inner nylon mesh portion, the inner mesh portion for allowing air to contact a crown of a wearer.

10 33. The protective helmet assembly of claim 1, wherein the suspension band is disposed around an inner surface of the shell so as to allow air to pass between the suspension band and the inner surface of the shell.

15 34. The protective helmet assembly of claim 1, wherein a portion of the adjustable headband away from the plurality of screw less connectors is adapted to freely conform to a portion of a circumference of the head of the user.

20 35. The protective helmet assembly of claim 1, wherein the adjustable headband is adapted to be directly secured to the suspension band so as to form an adjustable portion that adjusts to the shape of the head of the user independent of the suspension band and the shell.

36. The protective helmet assembly of claim 1, wherein the adjustable headband is capable of being arranged within the protective helmet assembly so as to provide a readily adaptable portion away from the plurality of connectors